

Tips for Green Leaders

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Frederick County



Maintaining your Lawn while Protecting Water Quality



Water: A Limited Natural Resource



*Is this your lawn? Is there an alternative?
What's wrong with this picture?*

that is fertilized in the Bay Watershed is equivalent to 800,000 football fields. In Maryland, the area devoted to managed turf and lawns consumes more land area than corn, soybean, and wheat combined!

Is your lawn a healthy, diverse, green ecosystem, pleasant to the eye with low cost, ecologically sound maintenance? Or is it an economic and environmental liability due to overfertilizing and overwatering?

Most of us have childhood memories of running barefoot through the grass. In mid-Maryland, the growing season for turf grass is close to 200 days—lots of time for running through the grass! According to a study by the Center for Watershed Protection in Ellicott City, Maryland, nearly 90% of residents in the Chesapeake Bay Watershed have a lawn, and the amount of turf

Estimated distribution of Turf Grass by Sector in the Chesapeake Bay Watershed (from the Center for Watershed Protection)

Sector	% of Turf
Home Lawns	70%
Roadside Right-of-Way	10%
Municipal Open Space	7%
Parks	4%
Schools	3%
Golf Courses	3%
Churches	2%
Cemeteries	1%
Others (e.g. airports, sod farms, etc)	1%

Resources:

- MD Department of Agriculture, Homeowner Tips tinyurl.com/j76rc6g
- Environmental Protection Agency's GreenScapes Program www.epa.gov/epawaste/conserve/rrr/greenscapes
- Information on Grasscycling www.calrecycle.ca.gov/organics/grasscycling/
- University of Maryland, Home and Garden Information Center <https://extension.umd.edu/hgic>

Lawn Facts

Lawnmowers and air pollution

One hour of pushing a new, gas-powered lawn mower around your yard produces about the same amount of pollutant emissions as driving your car for 50–70 miles. By some estimates, up to five percent of summer hydrocarbon emissions in suburban areas are due to lawnmower emissions.

Lawns are not sponges

Recent research indicates that half of all rainstorms produce at least some runoff from lawns, and about a third of all lawns are so compacted during construction that they have the same hydrologic properties as concrete. So, be careful what you put on your lawn—there's a good chance it may end up in the nearest stream, river, and the Chesapeake Bay!

Polluting streams

The most comprehensive national pesticide monitoring study to date, conducted by the U.S. Geological Survey, detected higher levels of insecticides in urban streams than in agricultural areas.

A labor of love

In Maryland alone, homeowners spend an estimated 72 million hours collectively each year on lawn care.

Turf nation

According to industry estimates, there are more than 50 million acres of managed turf in the U.S. By comparison, the total watershed area of the Chesapeake Bay is just over 40 million acres.

The DDT Legacy

Despite being banned more than 20 years ago, researchers routinely find low levels of the chemicals DDT and DDE in urban stormwater and sediment samples in our region. The legacies of these persistent pesticides are a sobering reminder that small actions can have long-term consequences.

Soil Testing: The Answer to your Fertilizing Questions

Testing your soil can help you determine whether or not you need to fertilize your lawn, and how much fertilizer is appropriate to use. Check out the University of Maryland's resources listed on the previous page for more information on soil testing.

You can receive a **Free soil test kit** by registering for the Green Homes Challenge! To register, visit:

www.FrederickCountyMD.gov/GreenHomes

What does a soil test measure?

- **pH** is a measure of the acidity of the soil. The optimum pH for most plant growth is 5.5-7.0.
- **Macronutrients** (P, K, Mg, and Ca) are required in large quantities for plant growth.
- **Micronutrients** (Fe, Zn, Cu, Mn, and B) are required in small quantities for plant growth.
- **organic matter**, composed of living and decomposed plant and animal tissue, is important for a soil's biological and chemical processes.
- **Heavy metals** (Pb, Ni, Cd, and Cr) can be a health concern.

Lawn care Tips

The choices we make in maintaining our lawns can make a real difference in the health of our streams, rivers, and the Chesapeake Bay. Read on to consider some easy tips to simplify lawn care and protect our water resources:

• **keep the fertilizer spreader in the garage this summer.**

Many people never fertilize and still have green lawns. Have your soil tested to determine whether you need to fertilize. Fertilize in the fall, not spring, using slow release forms of nitrogen. Aerate your soil to reduce compaction and help lessen fertilizer run-off from your lawn.

- **Measure your yard.** Do you really know how big your yard is? Most folks overestimate the size of their yard when buying and using lawn care products. Turf grass only requires 0.9 lb Nitrogen/1,000 square feet. Use this formula to determine the amount of fertilizer to apply:

$$\frac{0.9 \text{ lb Nitrogen}}{\text{Nitrogen content of fertilizer (as a decimal)}} \times \frac{\text{lawn size in square feet}}{1,000 \text{ square feet}} = \text{lbs fertilizer required}$$

- **Mow Higher and Less Frequently.** Experts caution that cutting grass too short is the second leading cause of problem lawns. You can control weeds by shading them out. Set your mower height to three inches and you will have fewer weeds.

• **Never apply herbicides or insecticides within 5 feet of pavement.**

If you must remove weeds near pavement, simply pull them by hand. Rinse out applicators away from paved areas. A recent California study showed that lethal insecticide levels in one stream were caused by a half-dozen homes that failed to follow these simple rules.

- **don't overwater the lawn.** Established lawns will survive a few weeks without rain. Too much water results in excessive leaf growth, depleting a lawn's energy reserves and weakening its disease resistance. Light, frequent water applications will make roots grow toward the surface, causing thatch and promoting weed growth. Cool weather grasses, like ryegrass or Kentucky bluegrass and some fescues go dormant and brown in the hot summer months and should not be watered.

- **Be a careful consumer.** Read all product labels carefully. If the product has too many warnings on the label, consider a safer alternative. Try these less toxic insecticides: insecticidal soaps, pyrethrum, rotenone and neem, horticultural oils, and Bt (*Bacillus thuringiensis*). The following natural fertilizers contain relatively low concentrations of nutrients, but add valuable organic matter to soil: cottonseed meal, blood meal, bone meal, fish emulsion, and manure. But be cautious; even if a product is less toxic, it can still be overused.

• **check the weather forecast before you fertilize or spray.**

If rain is expected within the next 24 hours, delay application until the next dry period.

don't Bother with Herbicides. An average acre of soil contains more than 200 million 'weed' seeds in the top six inches of soil. Don't get involved in a battle you can't win, and remember that the naked eye generally cannot distinguish between a perfect lawn and one containing a few weeds.

- **Honey, i shrunk the lawn!** A great way to save time and energy is to reduce the turf area on your property by about 5% each year. Start with the soggy and steep areas that are difficult to mow. Dig out the lawn and replace it with ornamental beds or a rain garden.
- **Select a Good Natural Lawn company.** About 25% of us use the services of a lawn care company to take care of our yards. While it is nice to have somebody else to do the sweating, a good slacker should insist on a company that conducts soil tests and uses organic fertilizers and natural pest management techniques. Make sure the firm and its personnel are licensed and certified by the Maryland Department of Agriculture's Pesticide Regulation Section.



"Tips for Green Leaders in Frederick County" is a publication of the Frederick County Office of Sustainability and Environmental Resources, Office of the County Executive. For more information on this topic and about our programs, visit www.frederickcountymd.gov/sustainability, email us at sustainability@frederickcountymd.gov, or call at 301.600.1416. Sustainable Frederick County is on Instagram, Twitter, and Facebook.